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#15 J. Moon 12/21/02

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/674,195B

DATE: 12/13/2002
TIME: 13:54:12

Input Set : A:\W159565.txt
Output Set: N:\CRF4\12132002\I674195B.raw

<110> APPLICANT: Rosely M. Zancope-Oliveira
Timothy J. Lott
Leonard W. Mayer
Errol Reiss
George S. Deepe
<120> TITLE OF INVENTION: NUCLEIC ACIDS OF THE M ANTIGEN GENE OF HISTOPLASMA CAPSULATUM, ANTIGENS, VACCINES, AND ANTIBODIES, METHODS AND KITS FOR DETECTING HISTOPLASMOSIS
<130> FILE REFERENCE: 14114.0325U2
<140> CURRENT APPLICATION NUMBER: 09/674,195B
<141> CURRENT FILING DATE: 2000-10-26
<150> PRIOR APPLICATION NUMBER: PCT/US99/09151
<151> PRIOR FILING DATE: 1999-04-27
<150> PRIOR APPLICATION NUMBER: 60/083,676
<151> PRIOR FILING DATE: 1998-04-30
<160> NUMBER OF SEQ ID NOS: 13
<170> SOFTWARE: FastSEQ for Windows Version 4.0
<210> SEQ ID NO: 1
<211> LENGTH: 3862
<212> TYPE: DNA
<213> ORGANISM: Histoplasma capsulatum
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: 3258
<223> OTHER INFORMATION: n = g, a, c or t(u)
<400> SEQUENCE: 1

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ttttattttc attcatcttc tctgtggcaa acatgcaggt atgcgagctc tggaccctgg 180
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tccccatttg ggttccctat aggccactgc gtgctccact caagaagggt cccagtcaat 360
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attgattatt tgtcttcttc agcatctttt tgtctcgagc aagcttactc cacgttcaat 480
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Input Set : **A:\W159565.txt**
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     61 acctaggctg actactcggc aatgtagata tcgtcggaaa caacgttcca gtcttcttca    1200
     62 ttcaggacgc tattcaattc cctgatttga ttcacgctgt caagccgcaa ccagacagtg    1260
     63 aaattcccca ggctgcaact gcacatgata cggcatggga tttcctcagc cagcagccca    1320
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     67 aggctcttgg cggaaagaat cccgacttcc atcgacaaga cctctgggat gccattgaat    1560
     68 ctggaaggta ccctgagtgg gaggtaagat atgattcccc caaatcatta gttctgacag    1620
     69 tgtttctctg ctctgtcggt tgctcttttc gtctttttct atatcttcaa ctaagactga    1680
     70 ctttatatac gttttactca tatagctggg ctttcaattg gtgaatgaag cagatcaatc    1740
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     73 gcagatcatg gttggtccac cccctatata tttggaatat gaatacatgt atagctagat    1920
     74 gaagcgtata tctaaatata tttccacagt tccaaccagg tcatgtagtt cgcggaatcg    1980
     75 atttcacgga tgacccttg cttcagggcc gcttgtactc ctaccttgac actcaattga    2040
     76 atcgccatgg aggtcccaac ttcgagcaac tgccgatcaa cagaccccgc atcccattcc    2100
     77 ataacaacaa tcgcgacggt gctggtaagc tacttctcac ctaccatgtc aacttccatc    2160
     78 ttgacccaat cgatttgtat agagtattaa catccccgtc tgcacaggac aaatgttcat    2220
     79 ccctctaaac acggccgcat atacacccaa ctcaatgagc aacggattcc cacaacaagc    2280
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     83 cgtgcggagt gaaaccgtgc gtaagaacgt catcatccag ctgaaccgcg tcgacaacga    2520
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     90 gctcaggatt attacggatg catacgcgta tggaaagccc gttggcgccg tcggtgacgg    2940
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     95 ctgtttttcc atctttggtt gaggtaatat tgcagatatc agtaaattgc gtttacgaaa    3240
W--> 96 gccggtgtca agcttcanga ggcctaatta atttgaagag gaggttgaag tgaaatcttg    3300
     97 gtgtaactat aataatttat aataactaat aacttataat taatgtctat tgtaatttcc    3360
     98 tctcacattc aatctatatt tgatccttgt cctttgtagc tgtttaaata taagccaaga    3420
     99 gagacaaata atgatagatt aacaaataat tgcacaccca ataggccttc cctcacgata    3480
    100 tcagatatta tctatcatgt tgtaatgata cctcaaaaat gccacaagct tgcctgatat    3540
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    103 tgactatctg ataaaaatgt ctgtatttcc gcttcacgac gcatgttatg actttcgaat    3720
    104 atagataaaa cctgaacgat ttagcccctg ttgggggaaa taggggttag gggggcgagc    3780
    105 tacatatcat tcccatatga ccaaaaacta aaatagatat atatatatat atatatatat    3840
    106 acaacacctt caaaaaggat cc                                           3862
    109 <210> SEQ ID NO: 2
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<211> LENGTH: 707
<212> TYPE: PRT
<213> ORGANISM: Histoplasma capsulatum
<400> SEQUENCE: 2

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Ser Asp Pro Thr Asp Gln Phe Leu Ser Lys Phe Tyr Ile Asp Asp Glu
            20                  25                  30
Gln Ser Val Leu Thr Thr Asp Val Gly Gly Pro Ile Glu Asp Gln His
        35                  40                  45
Ser Leu Lys Ala Gly Asn Arg Gly Pro Thr Leu Leu Glu Asp Phe Ile
    50                  55                  60
Phe Arg Gln Lys Ile Gln His Phe Asp His Glu Arg Val Pro Glu Arg
65                  70                  75                  80
Ala Val His Ala Arg Gly Ala Gly Ala His Gly Val Phe Thr Ser Tyr
                85                  90                  95
Asn Asn Trp Ser Asn Ile Thr Ala Ala Ser Phe Leu Asn Ala Ala Gly
            100                 105                 110
Lys Gln Thr Pro Val Phe Val Arg Phe Ser Thr Val Ala Gly Ser Arg
        115                 120                 125
Gly Ser Val Asp Ser Ala Arg Asp Ile His Gly Phe Ala Thr Arg Leu
    130                 135                 140
Tyr Thr Asp Glu Gly Asn Phe Asp Ile Val Gly Asn Asn Val Pro Val
145                 150                 155                 160
Phe Phe Ile Gln Asp Ala Ile Gln Phe Pro Asp Leu Ile His Ala Val
                165                 170                 175
Lys Pro Gln Pro Asp Ser Glu Ile Pro Gln Ala Ala Thr Ala His Asp
            180                 185                 190
Thr Ala Trp Asp Phe Leu Ser Gln Gln Pro Ser Ser Leu His Ala Leu
        195                 200                 205
Phe Trp Ala Met Ser Gly His Gly Ile Pro Arg Ser Met Arg His Val
    210                 215                 220
Asp Gly Trp Gly Val His Thr Phe Arg Leu Val Thr Asp Glu Gly Asn
225                 230                 235                 240
Ser Thr Leu Val Lys Phe Arg Trp Lys Thr Leu Gln Gly Arg Ala Gly
                245                 250                 255
Leu Val Trp Glu Glu Ala Gln Ala Leu Gly Gly Lys Asn Pro Asp Phe
            260                 265                 270
His Arg Gln Asp Leu Trp Asp Ala Ile Glu Ser Gly Arg Tyr Pro Glu
        275                 280                 285
Trp Glu Leu Gly Phe Gln Leu Val Asn Glu Ala Asp Gln Ser Lys Phe
    290                 295                 300
Asp Phe Asp Leu Leu Asp Pro Thr Lys Ile Ile Pro Glu Glu Leu Val
305                 310                 315                 320
Pro Phe Thr Pro Ile Gly Lys Met Val Leu Asn Arg Asn Pro Lys Ser
                325                 330                 335
Tyr Phe Ala Glu Thr Glu Gln Ile Met Phe Gln Pro Gly His Val Val
            340                 345                 350
Arg Gly Ile Asp Phe Thr Asp Asp Pro Leu Leu Gln Gly Arg Leu Tyr
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```
160         355                 360                 365
162 Ser Tyr Leu Asp Thr Gln Leu Asn Arg His Gly Gly Pro Asn Phe Glu
163     370                 375                 380
164 Gln Leu Pro Ile Asn Arg Pro Arg Ile Pro Phe His Asn Asn Asn Arg
165 385                 390                 395                 400
166 Asp Gly Ala Gly Gln Met Phe Ile Pro Leu Asn Thr Ala Ala Tyr Thr
167                 405                 410                 415
168 Pro Asn Ser Met Ser Asn Gly Phe Pro Gln Gln Ala Asn Arg Thr His
169             420                 425                 430
170 Asn Arg Gly Phe Phe Thr Ala Pro Gly Arg Met Val Asn Gly Pro Leu
171         435                 440                 445
172 Val Arg Glu Leu Ser Pro Ser Phe Asn Asp Val Trp Ser Gln Pro Arg
173     450                 455                 460
174 Leu Phe Tyr Asn Ser Leu Thr Val Phe Glu Lys Gln Phe Leu Val Asn
175 465                 470                 475                 480
176 Ala Met Arg Phe Glu Asn Ser His Val Arg Ser Glu Thr Val Arg Lys
177                 485                 490                 495
178 Asn Val Ile Ile Gln Leu Asn Arg Val Asp Asn Asp Leu Ala Arg Arg
179             500                 505                 510
180 Val Ala Leu Ala Ile Gly Val Glu Pro Pro Ser Pro Asp Pro Thr Phe
181         515                 520                 525
182 Tyr His Asn Lys Ala Thr Val Pro Ile Gly Thr Phe Gly Thr Asn Leu
183     530                 535                 540
184 Leu Arg Leu Asp Gly Leu Lys Ile Ala Leu Leu Thr Arg Asp Asp Gly
185 545                 550                 555                 560
186 Ser Phe Thr Ile Ala Glu Gln Leu Arg Ala Ala Phe Asn Ser Ala Asn
187                 565                 570                 575
188 Asn Lys Val Asp Ile Val Leu Val Gly Ser Ser Leu Asp Pro Gln Arg
189             580                 585                 590
190 Gly Val Asn Met Thr Tyr Ser Gly Ala Asp Gly Ser Ile Phe Asp Ala
191         595                 600                 605
192 Val Ile Val Val Gly Gly Leu Leu Thr Ser Ala Ser Thr Gln Tyr Pro
193     610                 615                 620
194 Arg Gly Arg Pro Leu Arg Ile Ile Thr Asp Ala Tyr Ala Tyr Gly Lys
195 625                 630                 635                 640
196 Pro Val Gly Ala Val Gly Asp Gly Ser Asn Glu Ala Leu Arg Asp Val
197                 645                 650                 655
198 Leu Met Ala Ala Gly Gly Asp Ala Ser Asn Gly Leu Asp Gln Pro Gly
199             660                 665                 670
200 Val Tyr Ile Ser Asn Asp Val Ser Glu Ala Tyr Val Arg Ser Val Leu
201         675                 680                 685
202 Asp Gly Leu Thr Ala Tyr Arg Phe Leu Asn Arg Phe Pro Leu Asp Arg
203     690                 695                 700
204 Ser Leu Val
205 705
208 <210> SEQ ID NO: 3
209 <211> LENGTH: 8
210 <212> TYPE: PRT
211 <213> ORGANISM: Histoplasma capsulatum
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Input Set : A:\W159565.txt
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213 <400> SEQUENCE: 3
214 Ser Asp Pro Thr Asp Gln Phe Leu
215 1 5
217 <210> SEQ ID NO: 4
218 <211> LENGTH: 15
219 <212> TYPE: PRT
220 <213> ORGANISM: Histoplasma capsulatum
222 <400> SEQUENCE: 4
223 Asp Phe Ile Phe Arg Gln Lys Ile Gln His Phe Asp His Glu Arg
224 1 5 10 15
226 <210> SEQ ID NO: 5
227 <211> LENGTH: 9
228 <212> TYPE: PRT
229 <213> ORGANISM: Histoplasma capsulatum
231 <400> SEQUENCE: 5
232 Thr Leu Gln Gly Arg Ala Gly Leu Val
233 1 5
235 <210> SEQ ID NO: 6
236 <211> LENGTH: 16
237 <212> TYPE: PRT
238 <213> ORGANISM: Histoplasma capsulatum
240 <400> SEQUENCE: 6
241 Ala Gln Ala Leu Gly Gly Lys Asn Pro Asp Phe His Arg Gln Asp Leu
242 1 5 10 15
244 <210> SEQ ID NO: 7
245 <211> LENGTH: 6
246 <212> TYPE: PRT
247 <213> ORGANISM: Histoplasma capsulatum
249 <400> SEQUENCE: 7
250 Ser Gly Arg Tyr Pro Glu
251 1 5
253 <210> SEQ ID NO: 8
254 <211> LENGTH: 10
255 <212> TYPE: PRT
256 <213> ORGANISM: Histoplasma capsulatum
258 <400> SEQUENCE: 8
259 Phe Asp Phe Asp Leu Leu Asp Pro Thr Lys
260 1 5 10
262 <210> SEQ ID NO: 9
263 <211> LENGTH: 14
264 <212> TYPE: PRT
265 <213> ORGANISM: Artificial Sequence
267 <220> FEATURE:
268 <223> OTHER INFORMATION: Description of Artificial Sequence; M antigen-specific oligonucleotide
270 <400> SEQUENCE: 9
271 Ile Ile Pro Glu Glu Leu Val Pro Phe Thr Pro Ile Gly Lys
272 1 5 10
275 <210> SEQ ID NO: 10
276 <211> LENGTH: 15

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 12/13/2002
PATENT APPLICATION: **US/09/674,195B** TIME: 13:54:13

Input Set : **A:\W159565.txt**
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Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 3258
Seq#:11; N Pos. 3,9

VERIFICATION SUMMARY DATE: 12/13/2002
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Input Set : **A:\W159565.txt**
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L:96 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:3240
L:326 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0